The lecture, it will be seen, contains much matter for serious thought, but it ends on a note of hope. As in the economic sphere, so here, the remedy lies in our own hands. The author advocates family allowances as one line of advance and he writes with an authority which should certainly command attention. One thing is clear. It is not by attempting to put back the hands of the clock to the old *laissez-faire* conditions that we can work out our salvation. There must be still more deliberate planning on the part of the State.

D. CARADOG JONES.

BRAIN AND MIND

Penfield, Professor Wilder, and Other Authors. *Cytology and Cellular Pathology of the Nervous System.* New York, 1932. Paul B. Hober Inc. Three volumes (Vol. I, pp. xiv and 1 to 420*b*. Vol. II, pp. viii and 423 to 901. Vol. III, pp. viii and 905 to 1267). With 886 illustrations, 15 in colour. Price in Great Britain £8 8s. (London, H. K. Lewis.)

THIS important work, indicative of the most highly trained research work and thought of the European and North American continents, will, it is much to be feared, make little or no appeal to any but experts as highly trained as the contributors. It will almost certainly leave untouched and unconverted those psychologists who are inclined to discuss the problems of the mind and its many disorders as though they were something altogether apart from its physical instrument, the brain. For these schools of thought the present work is too voluminous, too technical, too intricate, and much too concrete. "He who drives fat oxen must himself be fat," so to appreciate this great work at all there is necessary a pretty intimate acquaintance with the nervous system and the ectodermal and mesodermal elements from which it is developed. Brain and mind are built up of the former. The latter can be, and often is, destructive to both.

In view of the encyclopædic nature of this work, some equally encyclopædic statements of facts may not be amiss.

The book is in three volumes and comprises 1,267 pages, the work of 26 contributors, whose names are a sufficient guarantee of the accuracy and importance of their researches and observations. It is edited by Professor Wilder Penfield of McGill University, who is also a contributor to a subject with which his name is honourably associated. The first volume deals with neurones singly and in combination. Cowdry opens the symposium with 42 pages on the general character of the neurones, and is followed by Ariëns Kappers, Bielschowsky, and others of like repute. The second volume is largely concerned with non-nervous structures, such as neuroglia, microglia, meninges, and the pineal and other glands. Del Rio-Hortega and the editor himself contribute the two very important articles on neuroglia and microglia, with which this volume opens. The third volume is the one to which clinicians will be most likely to rush, as it concerns itself with tumours and other clinical macroscopic disorders of the nervous system, the removal of which offers at least some profit to the consultant, if but little to the patient. It would, however, be a pity if clinicians concentrated only on the visible tumours and neglected the even more destructive but invisible—except to the microscope—microglial elements, to the discussion of which is to be found the chief forward contribution of the present work in so far, at least, as mental science is concerned.

Every contributor furnishes a complete and voluminous bibliography. So much so, indeed, that fully 10 per cent. of the 1,267 pages are entirely devoted to lists of papers and researches published during the last thirty years, whilst all the articles are fully illustrated.

It may be said without fear of contradiction that this book is an important, comprehensive, and reliable guide to much painstaking research in the field of the microscopic study of the nervous system, and the

book's approach thereto is sufficiently indicated by its title—*Cytology and Cellular Pathology of the Nervous System.* However much one may dislike the doctrine, the human mind is certainly compounded of minute cellular structures termed neurones, and the whole of this great work is very properly devoted to their study and the problems which revolve around them.

So much for the facts: now for the opinions. It is a practical certainty that no one has read, or is likely to read, this book from cover to cover. The present reviewer has not done so. Personal interest has, however, led him to study attentively all those sections dealing with the neuropathology of the nerve cells, namely, the articles on microglia, neuroglia, the histopathology of nerve cells, inflammatory cells in the nervous system, and the cells of the cerebro-spinal fluid by, respectively, Rio-Hortega, Penfield, Bielschowsky, Greenfield, and Boyd. Other sections of the work, though necessarily included to give a composite entity to the whole, appear, on cursory inspection, to have been better done elsewhere; but the third volume is of undoubted interest and importance to the neurological physician and his surgeon. But those more particularly concerned with mental aberration will find the discussions on the non-nervous elements of the central nervous system—namely, the ectodermal neuroglia and the mesodermal microglia—even more suggestive, as they open out new avenues of thought.

Read in themselves and by themselves, these articles, excellent though they are, will convey little or nothing to the uninformed. But translated into terms of the structure and function of the central nervous system, they throw a flood of light on many abnormal mental phenomena. The mentally deficient, as seen in any large institution, have an uncanny habit of suddenly ' petering out ' without ascertainable cause, though necessarily some tag has to be appended to the death certificate. But illumination comes with the supposition—imaginary, if it please you—of a pathological mesodermal invasion of the cerebral cortex and a microglial destruction of neurones already diseased and insufficient for their purpose. But this illumination becomes a search-light of great splendour when such cerebral cortices are carefully examined under the high-power microscope, and there are then revealed neurones, defective in numbers, shape, and construction, numerous astrocytes and oligodendrocytes, and a super-abundance of phagocytic microglial cells dealing death and destruction to the neurones around them. An eating up of the far too few active elements the brains of the feeble-minded possess! No wonder that they die without adequate cause and with a total disregard of the official causes of death as sanctioned by the law!

If the reader be of the Thomas-a-Didymus type of mentality, by all manner of means let him get to it and disprove this suggested phagocytic action of the mesodermal microglial elements of the brain. But even a *non-possumus* attitude is unable to stay the progress of the glacier, and the advance of scientific truth much resembles the imponderable and irresistible forward march of these frozen masses of snow. So even though we take the true scientific attitude and regard as at least non-proven this phagocytic action of microglial mesodermal tissues on the brain, it is at least worth every consideration and further examination. For ourselves, it explains much hitherto inexplicable.

Whilst this book, notwithstanding that its price means the purchase of the dollar as well as the volumes, should be in every laboratory, which is probable, and in every consulting-room, which is improbable, there are two constructive criticisms which may be offered in the kindliest possible spirit.

The illustrations should much more definitely bear the facts of their origin, their microscopic magnification, mode of derivation, and all other information to enable others to repeat them and thus to prove or disprove them. It is unfortunate that so many of the presumable micro-photographs do not bear this imprint of their origin.

Secondly, there might well have been included, from the able pen of the editor, a

final summary telling the less-informed reader what the book has accomplished. Without it there is the grave danger, as with so many other similar and excellent works dealing with the intricacies of the brain and mind, that the ordinary reader may be unable to see the wood for the trees. To this objection the present work is undoubtedly open, and thus it becomes its own worst enemy. Deeply interested as we are in the minute phenomena of brain and mind, we wish this book every success, but could also wish these blemishes—if such they really be—removed from any subsequent edition.

R. J. A. BERRY.

CONTRACEPTION

Sanger, Margaret, and Stone, Hannah M. (Editors). *The Practice of Contraception.* Baltimore, U.S.A. Williams and Wilkins. (European Agents, London: Baillière, Tindall and Cox.) Pp. xiii+316. Price 21s.

IT is not very long since almost any book on contraception could be sure of a welcome from workers in the birth-control movement. To-day, so much has the literature expanded, propagandists can pick and choose a little—even that dwindling minority of persons who have no books of their own on the market to aid their critical faculties. They are looking now for well-attested facts rather than professions of faith and virtue; cold logic rather than warm sentiments; statistically valid conclusions rather than expressions of personal preference. Above all, they are showing a predilection for works in which clinical observations are correlated with the results of laboratory research, and due weight is given to the physiological, chemical, biochemical, and physical data that may form the basis of better contraceptive practice in the future.

It is to this critical public that the international symposium and survey on birth control, edited by Margaret Sanger and Hannah M. Stone, will make its chief appeal. Rare among works on the subject, it never attempts to marry propaganda to science; it is concerned, as its title correctly indicates, with the practice of contraception; with (to epitomize the main chapter headings) mechanical occlusive, intrauterine, chemical, and biological methods, sterilization, abortion, the psycho-pathology of continence and *coitus interruptus,* and the experience of clinics in the United States, Europe (including U.S.S.R.), India, China, and Japan. All the contributions were read at the International Birth Control Conference which was held in Zürich late in 1930; and it is worth recording that among those who took a prominent part in the discussions, and whose papers are reprinted in these transactions, were Ernst Gräfenberg, J. H. Leunbach, John R. Baker, Hannah M. Stone, Helena Wright, Norman Haire, C. I. B. Voge, Th. H. van de Velde, B. P. Wiesner, Abraham Stone, and C. P. Blacker.

In the birth-control movement this Conference marked the passing of an epoch. International birth-control conferences had, it is true, been held before; this was already the seventh. But it was also the first at which propaganda and uplift failed to receive their usual cordial welcome; at which, so to speak, the notice had been put up, "No admittance except on business." This is not to say that in the opinion of the organizers the time for propaganda had passed. In the United States, the home of Margaret Sanger, who more than anyone else was responsible for the arrangement and success of the Conference, advocates of birth control are still faced with the none too easy task of convincing the authorities that contraception and pornography do not necessarily fall in the same class; and even here, in Great Britain, the Ministry of Health has yet to be persuaded of the desirability of giving birth-control information to couples existing on the dole. But what Mrs. Sanger did realize was that at last enough work had been done upon the practical problems of contraception to justify a conference concerned with these only—a conference at which clinicians and other